

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A method of identifying a candidate compound that modulates mammalian $\Delta\text{TR}\alpha 2$ polypeptide activity, the method comprising:
 - a) obtaining a mammalian $\Delta\text{TR}\alpha 2$ polypeptide
 - b) contacting the $\Delta\text{TR}\alpha 2$ polypeptide with a test compound, and
 - c) assaying for binding of the test compound to the $\Delta\text{TR}\alpha 2$ polypeptide, wherein binding indicates that the test compound is a candidate compound.

2. (Currently amended) A method of identifying a candidate compound that modulates mammalian $\Delta\text{TR}\alpha 2$ polypeptide activity, the method comprising:
 - a) obtaining a mammalian $\Delta\text{TR}\alpha 2$ polypeptide bound to a $\Delta\text{TR}\alpha 2$ ligand,
 - b) contacting the $\Delta\text{TR}\alpha 2$ polypeptide bound to the $\Delta\text{TR}\alpha 2$ ligand with a test compound, and
 - c) measuring the displacement of the $\Delta\text{TR}\alpha 2$ ligand from the $\Delta\text{TR}\alpha 2$ polypeptide, wherein displacement indicates that the test compound is a candidate compound that modulates $\Delta\text{TR}\alpha 2$ polypeptide activity.

3. (Currently amended) A method of identifying a candidate compound that modulates mammalian $\Delta\text{TR}\alpha 2$ polypeptide activity, the method comprising:

- a) obtaining a test sample containing a cell expressing a mammalian $\Delta\text{TR}\alpha 2$ polypeptide,
- b) incubating the test sample with a test compound, and
- c) assaying the test sample containing the test compound for an alteration in type II 5' deiodinase (D2) activity, such that a test compound that alters D2 activity when compared to a test sample that was not incubated with the test compound is a candidate compound.

4. (Original) The method of claim 3, wherein the test compound decreases the amount of D2 activity.

5. (Currently amended) A method of identifying a candidate compound that modulates mammalian $\Delta\text{TR}\alpha 2$ polypeptide activity, the method comprising:

- a) obtaining a test sample containing a mammalian $\Delta\text{TR}\alpha 2$ polypeptide,
- b) performing an actin binding assay with the test sample in the presence of a test compound, such that a test compound that alters the binding of p29 vesicles to F-actin when compared to a test sample that was not incubated with the test compound is a candidate compound.

6. (Original) The method of claim 1, wherein the test compound is a flavone.

7. (Currently amended) The method of claim 2, wherein the test compound is a flavone.

8. (Original) The method of claim 3, wherein the test compound is a flavone.
9. (Original) The method of claim 5, wherein the test compound is a flavone.
10. (Original) The method of claim 1, wherein the test compound is an aurone.
11. (Currently amended) The method of claim 2, wherein the test compound is an aurone.
12. (Currently amended) The method of claim 3, wherein the test compound is an aurone.
13. (Currently amended) The method of claim 5, wherein the test compound is an aurone.
14. (Original) The method of claim 1, wherein the test compound is a T4 analog.
15. (Original) The method of 2, wherein the test compound is a T4 analog.
16. (Original) The method of claim 3, wherein the test compound is a T4 analog.
17. (Original) The method of claim 5, wherein the test compound is a T4 analog.

18. -45. (Cancelled)

46. (New) The method of claim 1, wherein the $\Delta\text{TR}\alpha 2$ polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.

47. (New) The method of claim 2, wherein the $\Delta\text{TR}\alpha 2$ polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.

48. (New) The method of claim 3, wherein the $\Delta\text{TR}\alpha 2$ polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.

49. (New) The method of claim 5, wherein the $\Delta\text{TR}\alpha 2$ polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.